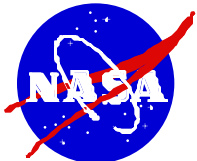


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# CHECKOUT & LAUNCH CONTROL SYSTEM

PRESENTATION TO  
PK, PZ, USA MANAGEMENT

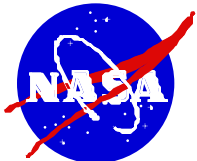
February 28, 1997



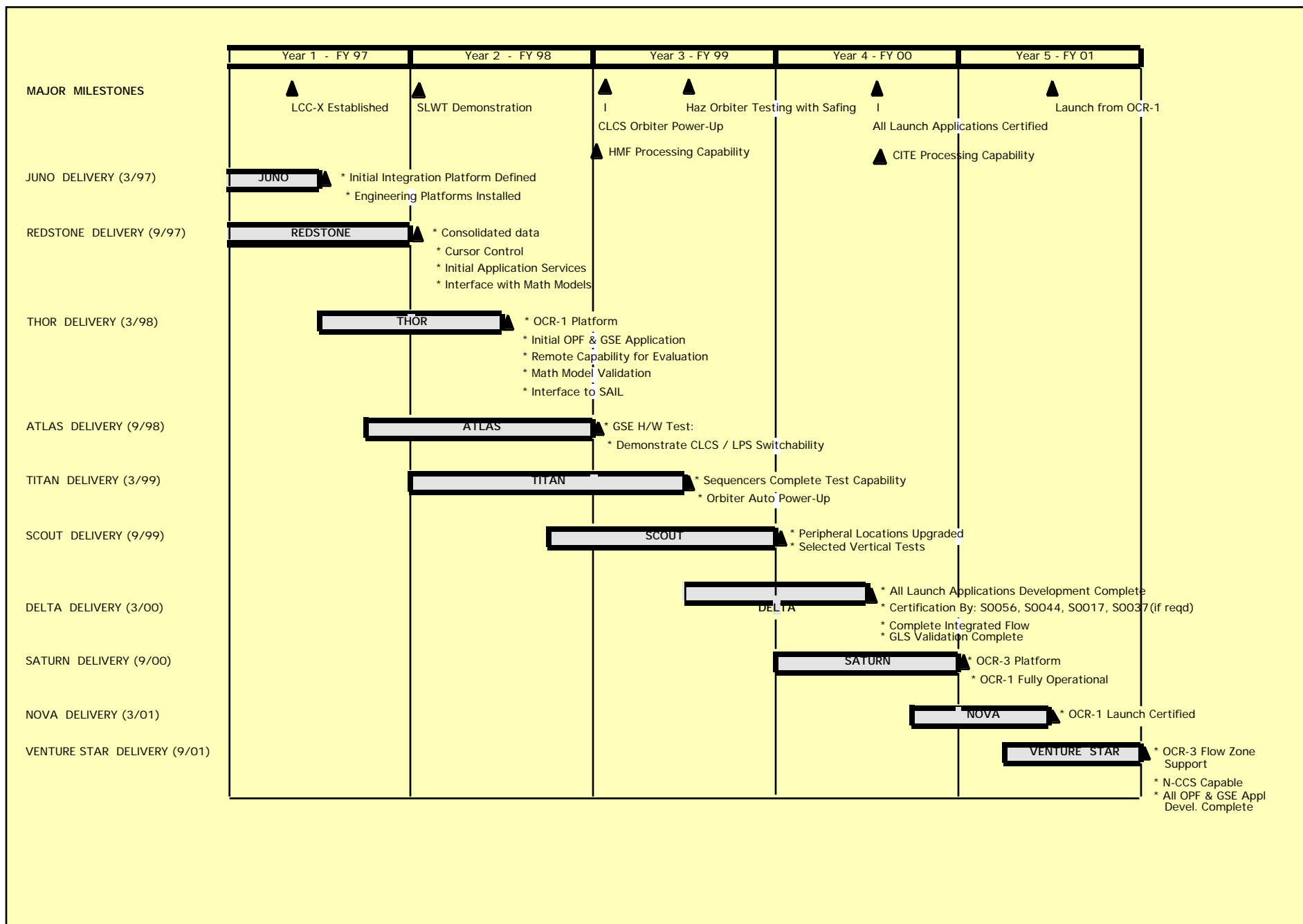
# AGENDA

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- **Introduction**
  - **Project Overview**
  - **User Liaison Status**
  - **Test and Certification Philosophy**
  - **Validation Process Definition**
  - **FR 4 Decommission**
  - **CDS to SDC Transition**
  - **Future Discussion**
- 



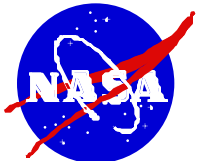
# 5 Year Master Delivery Schedule



# CLCS STATUS

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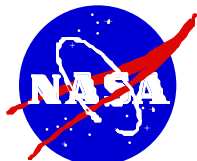
- **March 28, 1997 delivery (Juno) is on schedule**
  - **Satellite development environments in EDL and PCC**
  - **Experimental control room in FR 2 bubble with 2 prototype consoles**
  - **Consolidate Shuttle Data Stream with Metro (Pad Weather) and GMS data**
  - **Reliable messaging between processes on different platforms**
  - **Initial system software foundation established**  
**(Approx. 300k SLOC delivered)**
- **September 30, 1997 delivery (Redstone) is on schedule**
  - **Super Light Weight Tanking Test Support**
  - **LOX, LH2, MPS, SSME and Hazgas displays**
  - **Data Fusion**
  - **Initial GSE Data link (command and monitor with model)**
  - **Simulation interface**



# CLCS STATUS (CONT'D)

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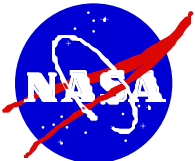
- **Software development tools being evaluated**
  - **OMS/RCS Pathfinder**
- **Transition schedule in work**
  - **HMF 1st operational facility**
  - **FR-4 to OCR-1**
  - **FR-3 to OCR-2**
  - **PR-2 and CCC to OCR-3**
  - **Deactivate FR-1 and CCC**



# CLCS STATUS (CONT'D)

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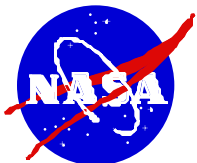
- **User Liaison Status**
  - **WEB Site**
    - » <http://clcs.ksc.nasa.gov/>
  - **Ops Plan Revisit (CLCS Operations Steering & Integration Committee)**
    - » **Working hot topics list**
    - » **Meeting regularly where design is occurring**
    - » **As items are worked; compare OPS Plan to system level specification**
    - » **Develop OPS concept section of the CLCS SDD**
    - » **Partner proposed solution to topic with user community**



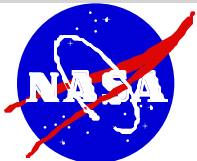
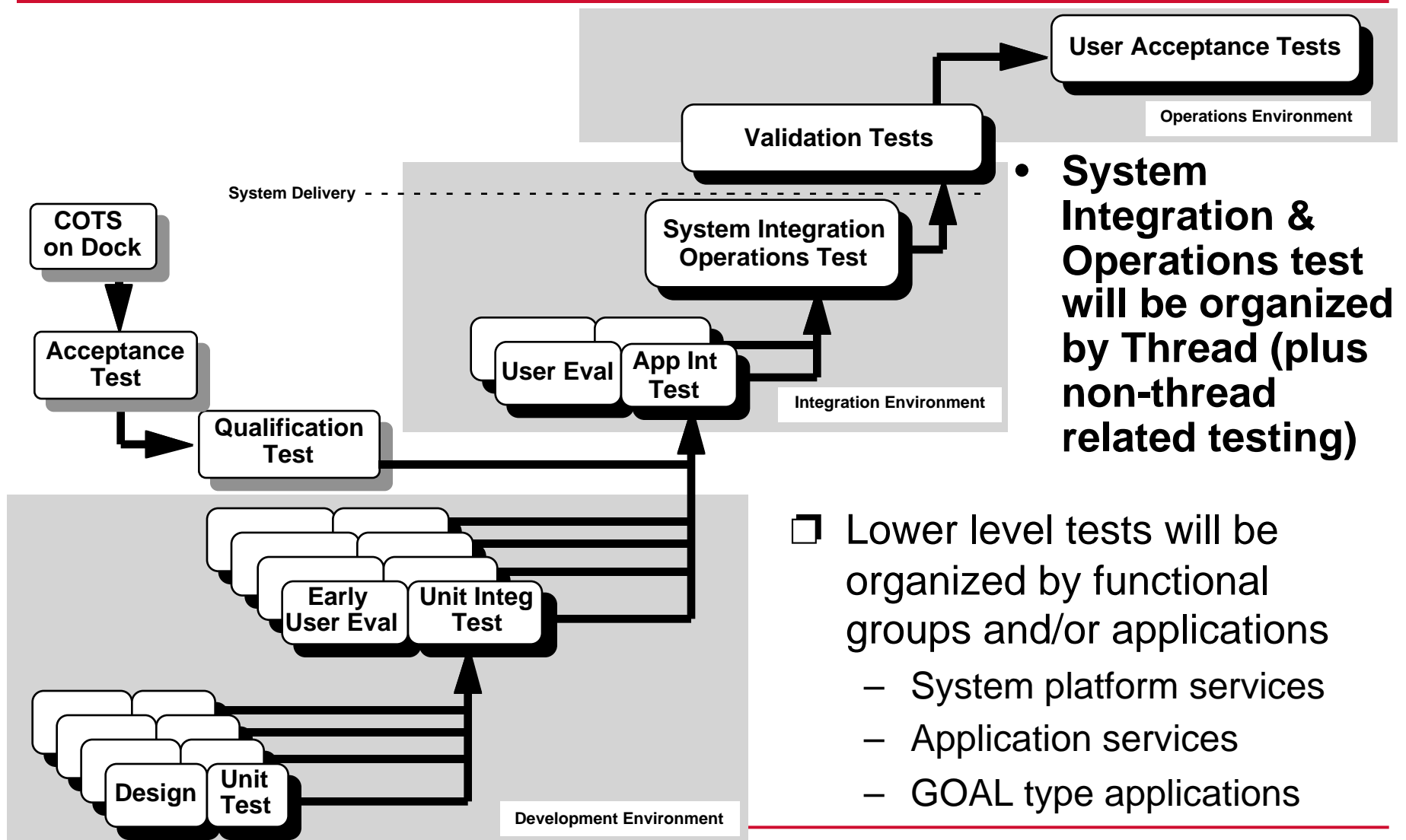
# CLCS STATUS (CONT'D)

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- **Test and certification philosophy**
  - **Build a little, test a little, user accept a little**
  - 
  - **User involvement in development process**
  - 
  - **Incremental certification**
    - » **Math models**
    - » **SAIL**
    - » **Sim runs**
    - » **Parallel tests with data comparison**

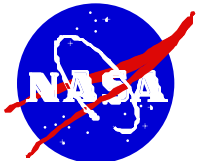
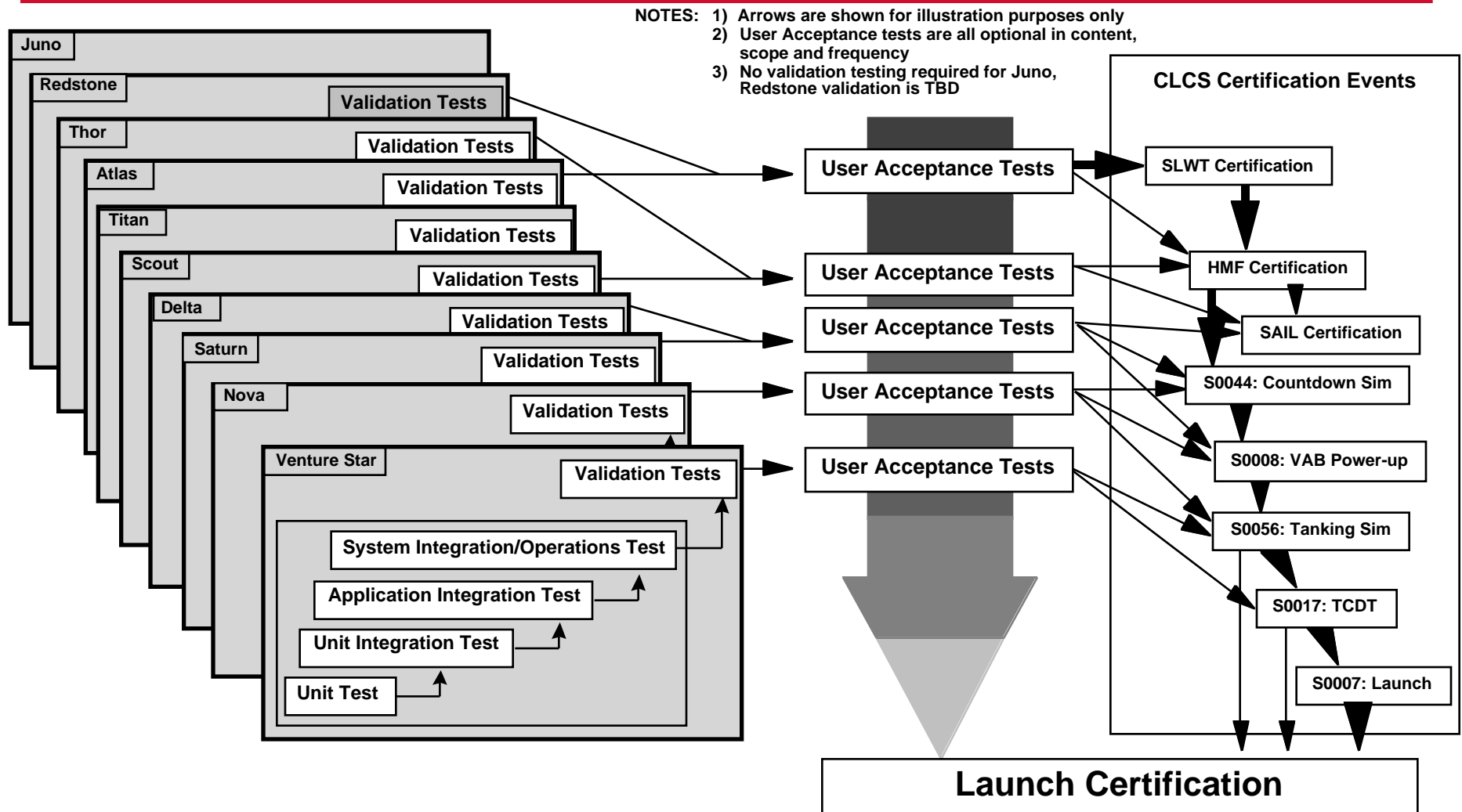


# CLCS Test Approach (One Delivery Cycle Shown)





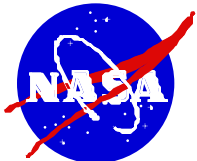
# Test and Certification Philosophy



# CLCS STATUS (CONT'D)

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- **Validation process definition**
  - **Test and verification plan is being developed**
    - » **System software**
    - » **Application Software**
      - **Transition guidelines for displays**
  - **User community to determine some specifics for testing**
    - » **What test & when to perform**
      - **For new capabilities**
      - **For regression**
    - » **Where do we want to perform test (environment)**
    - » **Who will perform testing**
    - » **How much is enough**
  - **CLCS system level specification**
    - » **Requirements still being reviewed and updated**



# CLCS STATUS (CONT'D)

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- **FR 4 decommission**
  - **11/97 is current plan**
- **CDS to SDC transition**
- **Future discussions**
  - **Certification**
  - **Transition Plan**
  - **Application Software Story**
  - **Simulation Story**

